

# TINA: MY INDIVIDUAL ASSISTANT


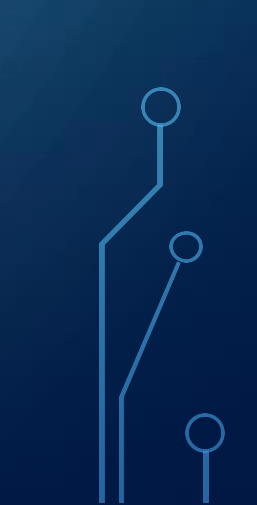
TINA IS NOT AN ACRONYM

Coursework for “From LLMs to AI Agents”  
By: Leo Simak  
Code: [github.com/kamisoel/tina\\_mcp\\_tools](https://github.com/kamisoel/tina_mcp_tools)



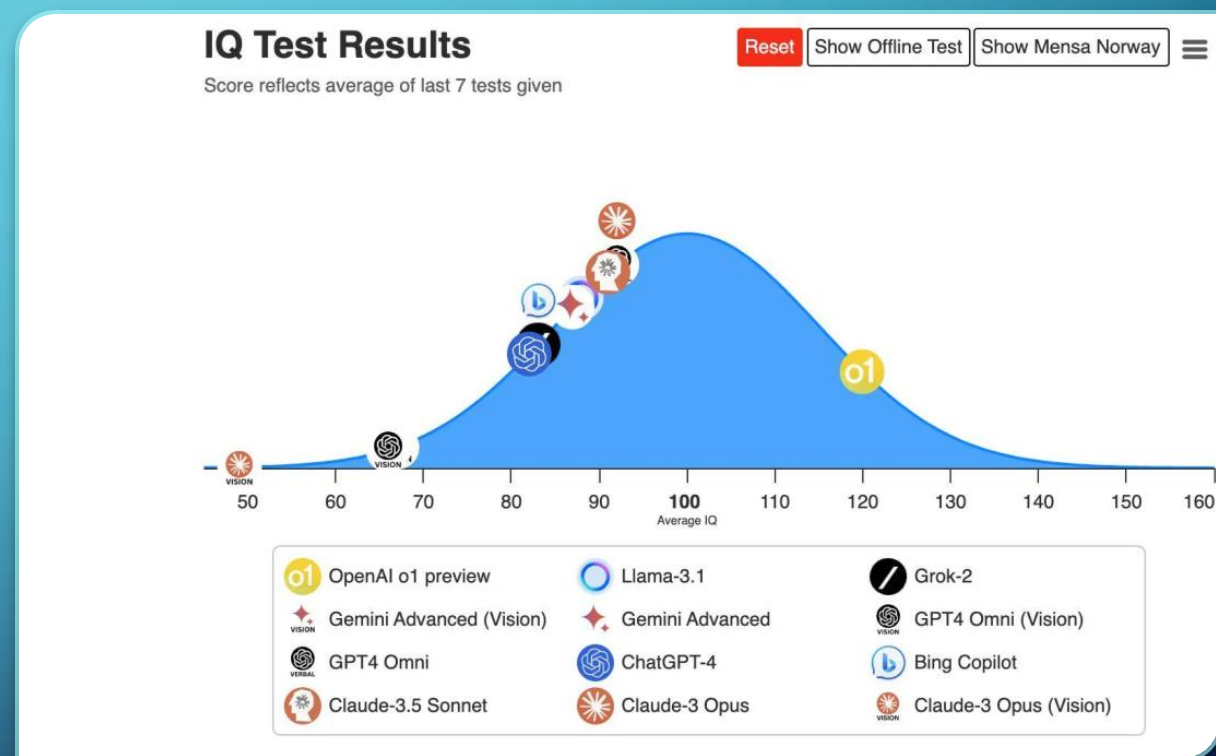


# THE PROBLEM: INFORMATION OVERLOAD & TASK FATIGUE

- We juggle emails, schedules, research, reminders, and more – daily.
  - Context switching drains productivity.
  - Routine tasks consume valuable time and mental energy – and to be honest are quite boring!
- 
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# OLD IDEA... WHY SHOULD IT WORK BETTER NOW?

- Siri, Alexa, Google Assistant...
- LLMs get better and better and support RAG, reasoning & tool calling
- Even local models are quite capable (e.g. Gemma3, Qwen3)
- Open-source frameworks (LangChain, LlamaIndex) are mature and make integration easier than ever.



# LLM AGENTS

## INTELLIGENT, AUTONOMOUS TASK EXECUTORS

- Built on top of LLMs like ChatGPT or open-source models
- Can plan, reason, take actions via tools (APIs, databases, web)
- Operate autonomously or in human-in-the-loop mode





# WHAT COULD AN AGENT DO FOR ME?

## General:

- ✉ • Summarize emails & assist answering
- 📅 • Help with task planning & execution
- 📝 • Assist with note taking

## Specialized

- 🔍 • Retrieve information from the intranet (e.g. mensa plan)
- 💓 • Answer medical questions based on local knowledge base
- 📁 • (Local semantic file search)
- 💻 • Start specific tasks (e.g. custom shells scripts)
- 🗄 • Memory of current project (working directory, history, etc.)
- 🖼 • (Work with DICOM images & metadata)

# UKSH MENSA TOOL



- Can access and parse the PDF plan uploaded on the website
- Answer questions like: *“What vegetarian menu does the mensa serve today?”*
- Quite useful 😊

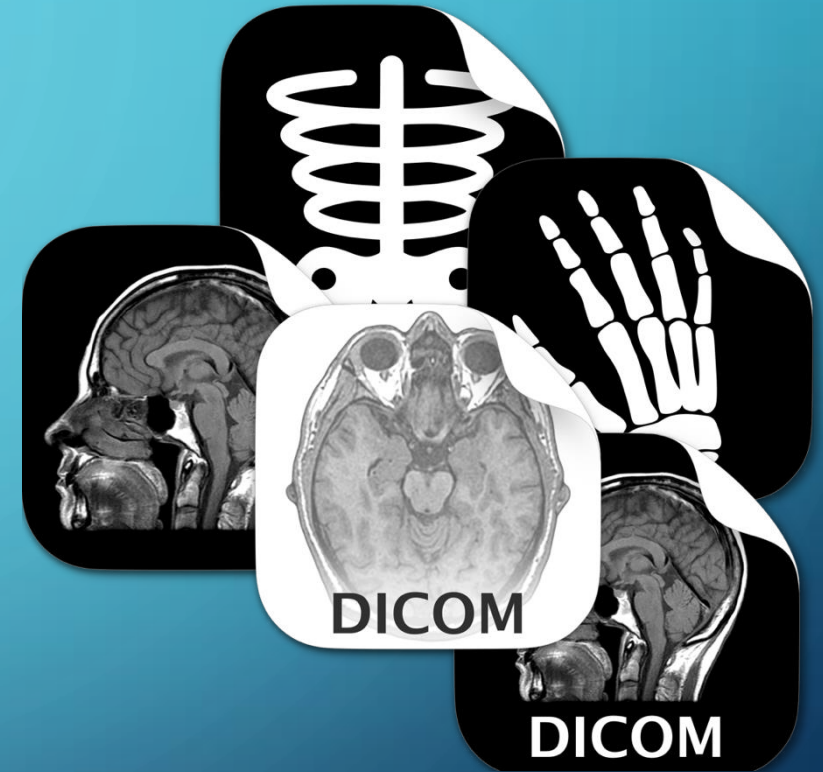




# DICOM SPECIALIST



- DICOM is a terribly complicated standard
- So, it would be helpful to:
  - Search in the Dicom standard documentation
  - List CIUDs, modules, attributes
  - Find details about specific attributes
  - Look up UIDs



# CONTEXT IS ALL YOU NEED



No complex agent or workflow needed..

Just teach a chat model a  
few new tricks





# CONTEXT IS ALL YOU NEED 🤪



No complex agent or workflow needed..

Just teach a chat model a  
few new tricks

MCP (Model Context Protocol)

- Custom tools
- New Context



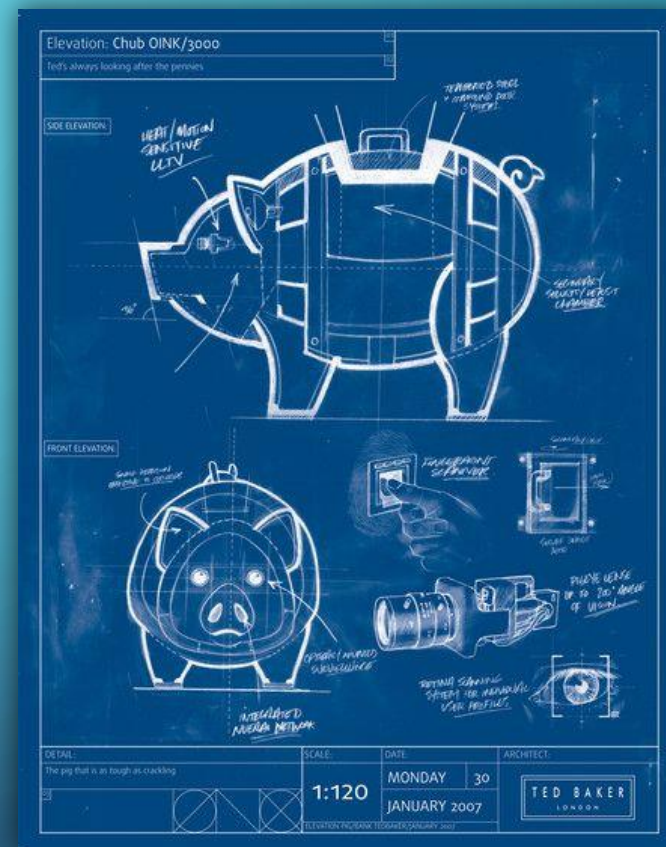
FastMCP



# TECHNICAL DETAILS

## Minimal requirements for my laptop 😊

- Local LLM Engine: **Jan Nano 4B**
- Server framework: **fastMCP**
- Vector DB: **DuckDB** 🦆
- Embedding model: **all-MiniLM-L6-v2**
- Interface: **Jan.ai** (why reinvent the wheel?)



# SYSTEM PROMPT



*You have access to a set of tools to help you answer the user's question. You can use only one tool per message, and you'll receive the result of that tool in the user's next response. To complete a task, use tools step by step - each step should be guided by the outcome of the previous one.*

## *Tool Usage Rules:*

- 1. Always provide the correct values as arguments when using tools. Do not pass variable names—use actual values instead.*
- 2. You may perform multiple tool steps to complete a task.*
- 3. Avoid repeating a tool call with exactly the same parameters to prevent infinite loops.*
- 4. Answer only based on tool outputs*

## *Language Rules:*

- 1. Identify the language of the users request*
- 2. Answer in the same language*





 Will it  
BLEND?

WORK?



Was gibt es morgen in der Mensa?



TINA

Jul 16, 2025 at 6:16 PM

▼ todays\_date Completed

▼ get\_mensa\_plan Completed

Morgen in der Mensa gibt es folgende Gerichte:

1. **Gericht 1:** Spaghetti "Bolognese", Tomaten-Rinderhackfleischsoße, Salat. kcal: 824 / kj: 3447. Preis: € 6,00 / € 8,00.
2. **Gericht 2:** originale Berliner Currywurst, Zwiebel-Apfelconfit, Bratkartoffeln, Gewürzgurke. kcal: 785 / kj: 3284. Preis: € 7,00 / € 9,30.
3. **Vegetarisch:** Kürbis-Chiasamen-Bratling, buntes Curry-Sesam-Gemüse mit Reis. kcal: 676 / kj: 2534. Preis: € 4,40 / € 5,85.
4. **WOK Station:** Bowl-Spezial. Preis: € / €. kcal: / kj: .

Diese Menüs sind für Donnerstag bereitgestellt.



Gibt es Freitag ein vegetarisches Menu?



TINA

Jul 16, 2025 at 6:20 PM

^ get\_mensa\_plan **Completed**

Arguments:

JSON

Copy

```
1 {"date":"2023-11-03"}
```

Output:

JSON

Copy

```
1 {  
2   "text": "No plan found for the specified date!",  
3   "type": "text"  
4 }
```

Es ist kein Menü für Freitag (2023-11-03) verfügbar. Das Menü wurde nicht gefunden.

**FAIL**



What is dicom?



TINA

Jul 16, 2025 at 7:55 PM

▼ search\_dicom\_standard **Completed**

DICOM stands for Digital Imaging and Communications in Medicine. It is a standard for handling, storing, retrieving, and transmitting medical imaging data, such as X-rays, CT scans, MRI, and ultrasound images, across different medical devices and systems. DICOM defines a set of protocols, data formats, and communication models that allow interoperability between medical imaging equipment and other systems, ensuring that data can be shared and interpreted correctly.

The standard is divided into several parts, each addressing different aspects of medical imaging data exchange. For instance, **PS3.2** (Part 3.2) focuses on conformance requirements, which specify how medical devices must behave to be compatible with other DICOM-compliant devices. **PS3.18** (Part 3.18) deals with web services, enabling the use of HTTP to retrieve or store DICOM objects, which is important for integrating medical imaging data with web-based systems.

DICOM is particularly useful in areas like radiology, cardiology, and pathology, but it also extends to other medical environments such as clinical, research, and veterinary settings. It allows for the seamless communication of medical images and related information across different vendors and platforms, ensuring that data can be shared and understood consistently.



How is the patients name saved in DICOM?



TINA

Jul 16, 2025 at 10:35 PM

lookup\_attribute Completed

Arguments:

JSON

Copy

```
1 {"attribute": "Patient Name", "domain": "Study"}
```

Output:

JSON

Copy

```
\ "tag\: \"(0010,0010)\",\n  \ "name\: \"Patient's Name\", \n
```

In DICOM, the patient's name is saved in the **Patient Name** attribute, which is represented by the tag **(0010,0010)**. This attribute is part of the **Patient Module**, which is used to describe the patient who is the subject of the Study. The value representation is **PN**, which stands for "Patient Name," and it is typically stored as a string in the format:

```
PatientName: [Full Name of Patient]
```

B-



**NOT BAD**

# IN SUMMARY

NOT BAD FOR A TINY  
(NOT THAT CLEVER) MODEL 😊